Amendments to the claims:

Please replace all prior versions and listings of the claims with the following amended claims:

1-18. (canceled).

19. (currently amended) A laser system comprising:

a. a laser source for generating laser light comprising laser bursts comprising laser pulses; and

b. a laser applicator for delivering a portion of the laser light to a target vascular tissue area, the laser applicator comprising:

i. a trunk optical fiber;

ii. an endo-probe coupled to the trunk optical fiber including a side-firing delivery optical fiber with an input end for receiving laser radiation from the trunk optical fiber and an extended firing portion for delivering the portion of the laser light to the target vascular tissue area; and

iii. a shielding structure coupled to the endo-probe including a housing portion that surrounds a section of the delivery optical fiber and a beam-blocking portion to block forward propagation of the laser.

20. (original) The system of claim 19, wherein the laser source is configured to generate laser light with energy corresponding to between 1 and 200 mJ/per pulse.

21. (original) The system of claim 19, wherein the laser source is configured to generate the laser bursts with a repetition rate of between 40 and 10 Hz.

22. (original) The system of claim 19, wherein the laser source is configured to generate the laser bursts with a separation of less than 2.0 milliseconds.

23. (previously presented) The system of claim 19, wherein the laser burst comprises between 1-24 laser pulses.

24. (previously presented) The system of claim 22, wherein the laser pulses are separated by less than 2.0 milliseconds.

25. (previously presented) The system of claim 23, wherein the laser pulses have pulse widths of less than 100 microseconds.

26. (previously presented) The system of claim 19, wherein the side-firing delivery optical fiber has a firing end with a diameter of less than 500 microns.

27. (previously presented) The system of claim 26, wherein the delivery optical fiber is selected from the group consisting of fused silica fiber and a sapphire fiber.

28. (canceled).

29. (currently amended) The system of claim 19, wherein the housing portion is flexible to control approach angles of the side-firing delivery optical fiber from the vascular tissue ~~laser applicator further comprises means to control a distance of the side-firing delivery optical fiber from the vascular tissue~~.

30-47 (canceled).

48. (currently amended) A laser system comprising:

a. means to generate bursts of laser light comprising laser pulses;

b. means to focus the laser light into a trunk optical fiber;

c. a flexible endo-probe coupled to the trunk optical fiber, the endo-probe comprising a delivery optical fiber with an input end for receiving laser radiation from the trunk optical fiber and a firing end, the flexible endo-probe further comprising a shroud feature that surrounds a portion of the delivery optical fiber ~~and a beam blocking structure to block forward propagation of laser light and to form a gap with the shroud feature~~; and

d. means to adjust an approach of the delivery optical fiber to the target area of vascular tissue during use, wherein the means to adjust the approach of the

delivery optical fiber comprises a mechanism to slidably extend the delivery optical fiber from the endo-probe.

49. (canceled).

50. (previously presented) The laser system of claim 48, wherein the input end of the delivery optical fiber has a diameter of less than 500 microns.

51. (previously presented) The laser system of claim 48, wherein the firing end of the delivery optical fiber has a diameter of 300 micron or less.

52. (previously presented) The laser system of claim 48, wherein the firing end of the delivery optical fiber has a diameter in a range of 50 to 225 micron.

53. (previously presented) The laser system of claim 48, wherein the means to adjust an approach of the delivery optical fiber to the target area is configured to adjust the firing end of the delivery optical fiber at angles between 0 and 90 degrees.

54. (canceled).

55. (canceled).

56. (currently amended) The laser system of claim [[54]] 48, wherein the means to generate bursts of laser light comprises an Er:YAG laser medium.

57. (previously presented) The laser system of claim 48, wherein the means to generate bursts of laser light is configured to provide between 5 and 200 mJ/per pulse.

58. (previously presented) The laser system of claim 48, wherein the means to generate bursts of laser light is configured to generate laser pulses with a repetition rate between 40 and 10 Hz.

59. (previously presented) The laser system of claim 48, wherein the means to generate bursts of laser light is configured to generate bursts of laser light that are less than 2.0 milliseconds.

60. (previously presented) The laser system of claim 48, wherein the means to generate bursts of laser light is configured to generate 1-20 laser pulses for each laser burst.

61. (previously presented) The laser system of claim 60, wherein the means to generate bursts of laser light is configured to generate the laser pulses at pulse separations of less than 2.0 milliseconds.

62. (previously presented) The laser system of claim 48, wherein the delivery optical fiber is selected from the group consisting of a fused silica fiber and sapphire fiber.

63. (previously presented) The laser system of claim 48, wherein the trunk fiber is a sapphire optical fiber.

64. (canceled).

65. (previously presented) The laser system of claim 48 wherein the delivery optical fiber is slidably extendable when the endo-probe is situated within a tissue cavity.

66. (previously presented) The laser system of claim 48, wherein the means to adjust the approach of the delivery optical fiber comprises a mechanism to adjust the approach angle through a range of angles.

67. (canceled).

68. (currently amended) A laser system comprising:

a. a laser source to generate bursts of laser light comprising laser pulses;

b. a trunk optical fiber coupled to the laser source to receive the laser pulses;

c. an endo-probe coupled to the trunk optical fiber, the endo-probe comprising a side-firing delivery optical fiber with a body portion and a side-firing portion that extends outward from the body portion; and

d. a shroud feature that surrounds [[a]] the body portion of the side-firing delivery optical fiber and has a [[beam blocking]] beam-blocking structure to block forward propagation of laser light, wherein the side-firing portion of the side-firing delivery optical fiber emits the laser light at an angle between 30 and 45 degrees relative to an axis of the body portion of the side-firing optical fiber; ~~and~~

[[d.]] ~~an adjusting mechanism to adjust an approach of the side-firing delivery optical fiber during use~~.

69. (currently amended) The laser system of claim [[69]] 68, wherein the adjusting mechanism comprises a mechanism to slidably extend the delivery optical fiber from the shroud feature.